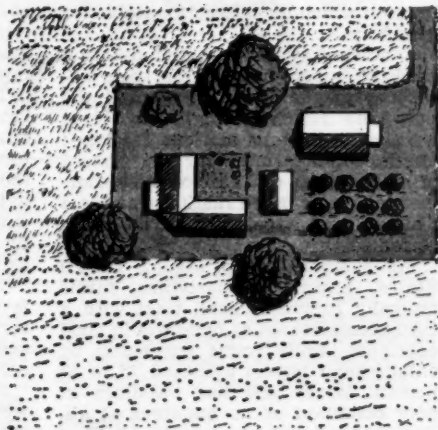


Agricultural Situation

Vol. 51, No. 8

**Statistical Reporting Service
U.S. Department of Agriculture**

Rural Realty In Focus



1,223 ACRES of excellent, new potato and sugar-beet ground. \$125 per acre. Approx. 400 acres cleared. Proven water field, in ~~new farming development.~~

700 ACRES, 70 ACRES
in creek, three
near town
equivalents

116 ACRES, 70 ACRES CULTIVATED, 1 1/2
creek, three bedroom home, on old
near town, mild climate. Two tractors
equipment. Only \$47,500 terms. Write
us restore. 250 years of
rick... 3 firepl.

REAL ESTATE

Trends: Buyers Sellers

SOLD!

Putting the Price Tag On the Farmland

Farm real estate transfers covered a total of 26.5 million acres in the year ended March 1, 1966, and were worth \$5.3 billion. Over 113,000 tracts were transferred.

These overall figures obscure the effects of certain price-determining factors like size, number and type of buildings, percentage of cropland, and location which make tracts suitable for specific uses.

A quick way to gage the differing needs of buyers is to divide them according to the use they wanted the new land for. You might say there were actually three markets for land: For part-time farming, for enlargement of other farms, and for complete commercial farms. Each market was for a distinct farm type, with variation by region.

For example, in the eastern United States, buyers of part-time farms typically bought a small tract with a fairly complete set of buildings in good condition, while tracts purchased by enlargement buyers averaged 25 to 50 percent larger and had buildings in poor condition or no buildings at all. Enlargement tracts usually had a higher percentage of cropland than either part-time or complete-unit farms.

Potential operators in the market for complete farms prefer tracts with a full complement of buildings in good condition. In 1965-66, the average size of such purchases was 428 acres, compared to 367 acres for add-on tracts and 125 acres for part-time farms.

Tract prices varied as widely as their size. At the national level, complete farms sold for more money per acre than add-on tracts but less than part-time tracts.

In figuring the value of the average acre of U.S. farmland transferred, wide regional variations in price must be considered. Sample real estate prices



from March and October 1966 showed that these variations are partly a result of well-known factors which affect the price of farmland: Percentage of cropland in the tract, its size, and its nearness to a city.

At the national level, prices ranged from an average of \$46 per acre for tracts with 5 percent cropland to \$368 for those having more than 90 percent cropland. The same pattern was evident at the regional level; holding the percentage of cropland constant removed much of the price difference between regions.

Tract size and the amount of cropland are related, since larger tracts tend to have higher percentages of pastureland and wasteland. Because of the reduction in cropland, the reduction in the value of improvements associated with each acre, and the increased likelihood of a discount, price per acre declines as tract size increases.

While the average U.S. acre transferred cost \$200, sample prices in the survey varied from an average \$78 per acre for transferred tracts over 1,000 acres, to \$567 for those under 50 acres.

Farm tracts sold near urban centers were found to be 10 percent smaller than tracts sold in rural counties, but urban farmland was nearly twice as expensive.

Economic Research Service

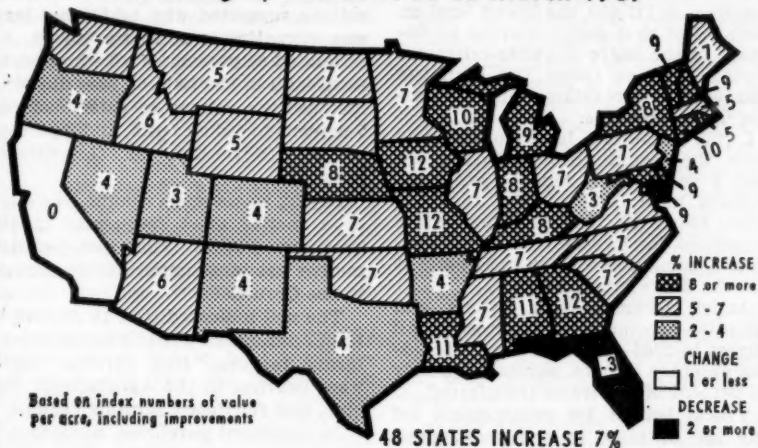
Higher Prices, Tighter Credit

Rising land values haven't stopped farmers from playing an ever-bigger role in the real estate market. Some are selling to realize capital gains and others are buying to increase their size of business.

On the seller's side of the fence, prices are encouraging. For the year ended in March 1966, the national average value of an acre of farm prop-

CHANGE IN DOLLAR VALUE OF FARMLAND

Percentages, March 1966 to March 1967



erty reached a record of \$164. Prices for tracts sold averaged about \$40 higher because they are a little smaller in size and have more cropland than average farms.

The national value index of farmland and buildings was also at a record high. With an index number of 65 in 1950 (1957-59=100), and of 111 in 1960, it reached the 160 level in March of this year. That represents an average increase of about 6 percent a year for the past decade.

SPREADING OUT

On the buying side, farmers are increasing their share of the land purchases, despite the price uptrend. More operators are in the market for enlargement land, too. Enlargement purchases in 1966 reached an all-time high, although total land transfers were at a record low.

Farmers thus can use a lot of credit, but they're not getting all they need. The decline in land transfers, as well as the farm real estate price activity of recent months, are keyed to the flow of money from two sources: Farm income and available credit.

The dollar value of the farmland rose by 8 percent in the year ended November 1966, but only another 2 percent between then and March of this year.

During the first half of 1966, with cash receipts from farm marketings 12 percent over a year earlier, land values increased sharply and farmland buyers were optimistic about land earnings.

MONEY PINCH

Beginning in June, however, reductions in mortgage funds from commercial sources signaled a tightening in the availability of credit to land buyers. As a result, the number of transfers declined during the rest of 1966, accompanied by prospects for a slight dip in realized net farm income for 1967.

However, competition for mortgage funds has since remained strong, and potential buyers who can obtain credit have continued some upward pressure on land prices.

Nevertheless, continued increases in the cost of financing and the tighter money supply have held down price rises recently.

Economic Research Service

IT'S A DEAL: Here's the Buyer . . .

Farm real estate market conditions in 1965-66 reduced the number of land transfers to 113,600, the lowest level on record. But that didn't prevent an increase in the share of owner-operators buying land, or daunt the optimists who were out coralling land for enlargement purposes.

Owner-operators have increasingly been the leading buyers during the past 6 years, while tenants and nonfarmers have declined. For the year ended March 31, 1966, owner-operators accounted for 53.8 percent of all purchases, compared with 48 to 51 percent for the 5 preceding years.

Active farmers—both owners and tenants—accounted for 67 percent of all buyers in 1965-66. Nonfarmers, including absentee owners, purchased nearly 30 percent of the tracts transferred.

Tracts bought for enlargement led the list of sales in the year ended March 31, 1966: They numbered 67,300, topping the earlier record of 1959 by 4,700 tracts. The enlargement parcels accounted for 58 percent of the 113,600 tracts transferred by voluntary or estate sale, the largest percentage in 6 years.

. . . And the Seller

Take a quick look at the sellers of farm real estate in 1965-66:

—85 percent were 45 or older.

—Most had owned their property between 17 and 22 years.

—About three tracts in 10 had been owned less than 12 years, but three-fourths of retired sellers had owned their land longer than 22 years.

Sales by active and retired farmers averaged 55 percent nationally, and ranged from 48 percent of all sales in the Southern Plains to 65 percent in the Northeast and Mountain States.

The remainder of the land transfers were made by estate sale and by local nonfarmers and absentee owners.

Most active farmers who sold land did so to retire, and most nonfarmer sellers sold to capture capital gains.

Nationally, of each 100 active farmers who sold land, 40 were going to retire;

A poll of farm businessmen and others involved in real estate transactions suggested why additional land was attractive to so many buyers. An estimated 61 percent of all who bought farm land in the 1965-66 year did so to increase the volume of their business, 7 percent to reduce costs, and 3 percent to take advantage of Government programs.

Buying to increase volume was cited as a motive most frequently in the Northern Plains. The cost-reducing motive was most important for buyers in the Corn Belt.

The poll indicated that 16 percent of tracts purchased went to operators entering farming. New farming starts were heaviest in the Appalachian, Pacific, and Northeast farming regions.

Enlargement purchases, numerous in all regions, reached 80 percent of all sales in the winter wheat areas and 70 percent in the Eastern and Western Corn Belts. In the Western range livestock area, the share of add-on purchases increased by 10 percent, the largest gain in proportion of any region.

12 wanted to take a nonfarm job; 16 bought another farm; 4 sold for capital gains and 5 to liquidate unsatisfactory investments.

Looking at regional activity, retirements were heaviest in dairy areas on the east and west coasts. Those who sold to find nonfarm employment were most frequent in the Northeast, and farmers planning to start on a new farm were frequent in the eastern tobacco and central cotton-farming areas.

In general, nonoperator sellers sold either for profit or to release an unsatisfactory investment. Sales for gain ranged from 11 percent for nonfarmers in the Northeast to 75 percent on the Gulf Coast. The Northeast also had the highest percentage of sales for unprofitable investment reasons.

Economic Research Service

Farm Size Keeps Growing, As Smaller Farms Are Absorbed

The shifting balance in land and numbers between small and large U.S. farms is underscored by an Economic Research Service study comparing the 1964 Census of Agriculture to the one 5 years earlier.

Farms under 500 acres in size declined by more than a half-million in number to 2.8 million in 1964, when they accounted for 378.8 million acres of the land in farms. The remaining farms of 500 or more acres increased by 19,000 and accounted for 727 million acres by 1964, or nearly twice as much land as occupied by smaller farms.

Average farm size grew during the 5-year period, but by how much depends on the way you measure the growth. In the census count, a decrease of 14.6 percent in farm numbers, accompanied by only a 1.2-percent decrease in total farm acreage, caused the average number of acres per farm to rise from 302 to 350.

But the amount of farmland rented or purchased for farm enlargement between 1959 and 1964 averaged only 16 acres for each farm counted in the latter census. That's one-third of the 48-acre gain in average farm size recorded by the census.

This poses the question: How big were the farms counted in 1964, 5 years previously?

Since the average size of all farms counted in the 1964 census was 350 acres, the 16-acre increase through enlargement points to a 334-acre average size in 1959 for these farms. In other words, farms which survived between the census years were 32 acres larger in 1959 than the 302-acre average of all U.S. farms in the same year.

If the bigger farms tended to keep growing, what about the smaller ones? Here's an indication:

The farms which disappeared from

the later census, either through annexation or withdrawal from farming, averaged less than 302 acres in size.

Annexed farms had an average size of only 206 acres. The removal of 207,000 farms in this manner caused farm numbers to decline by 6.8 percent without affecting the total land in farms.

Farms withdrawn from agricultural use were smaller yet, having an average size of only 66 acres each. The loss of 344,000 such farms depleted total farm acreage by only 2 percent. These farms accounted, however, for a 9-percent decrease in U.S. farm numbers.

The 2-percent loss of acreage from the farm withdrawals was partially offset by the addition of 8 million acres of land formerly not classified as farmland.

It has been commonly thought that smaller farms remain in agriculture because they are annexed.

However, farms under 80 acres, the size class of many of the tracts which moved out of farming between 1959 and 1964, are unlikely to attract enlargement buyers or renters. They often contain unwanted farm buildings. In addition, small farms are frequently clustered on terrain unsuitable to large-scale profitable operation. Also, they are often in demand for country homes or for retirement property.

In the regions bordering on the Atlantic Coast, where many small farms were withdrawn from agricultural use, farm enlargement was the lightest. In the Lake States, the Corn Belt, and the Northern Plains, however, over half the increase in average farm size was due to enlargement; and most of the decline in farm numbers in each of these regions came from the loss of farms through annexations.

*Robert Reinsel
Economic Research Service*



Must His Land Get Taxed At Urban Rates? Various Remedies Are Being Tried



If you want to make a dedicated farmer unhappy:

—Sell the land around his farm at six or eight times its agricultural value;

—Build high-rise apartments, shopping centers and housing developments on it; and

—Slap the farmer with a higher tax bill based on the increased market value of his land.

This is precisely what is happening to many farmers on the fringe of large cities.

Recent estimates indicate that taxes on fringeland farms are more than five times those in rural areas distant from large metropolitan centers.

These high taxes have brought pleas for relief all over the country, and a number of State legislatures have responded.

Now in use—or under consideration—are the following laws:

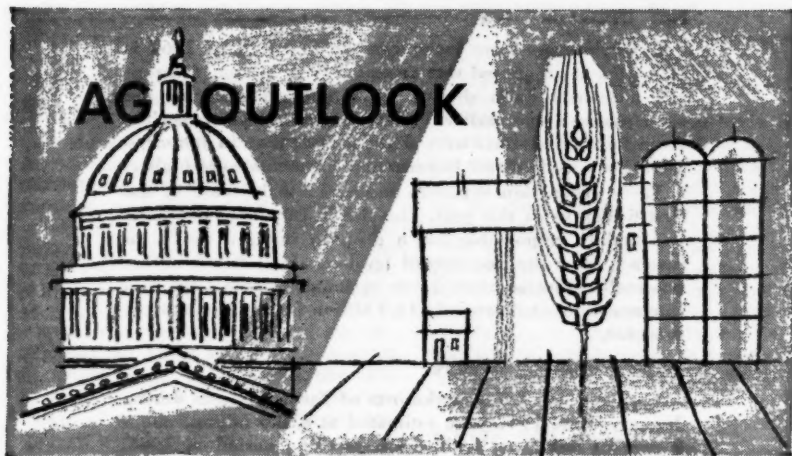
Preferential assessment. Lands used for agricultural purposes are assessed on the basis of use rather than on current market value. Opponents argue that this benefits speculators, who can get preferential assessments by conducting minimal farming operations, more than it benefits bona fide farmers.

Deferred taxes. The assessor determines two values for the property—agricultural and full market. The farmer is taxed only on the agricultural value. But should he at any time sell or convert the land to nonagricultural use, he must pay the difference in back taxes. A few States have passed laws of this type but the results are still inconclusive.

Planning and zoning. Communities, through their planning and zoning boards, determine long-range land use and divide land into use-zones. Lands zoned for open space or farming are taxed on their agricultural value. Lands zoned residential or commercial are taxed higher.

Often, escalating land values create powerful pressures to exempt specific property from zoning regulations or to change the regulations altogether.

Easement. The local government, either through purchase, donation or lease, obtains easements which regulate the way in which land can be developed. The minimum lot size might be specified or land could be restricted from sale for urban use.



Based on Information Available July 31, 1967

LESS COTTON

The August 1 carryover of cotton totals about 12½ million bales—down nearly 4½ million bales from record stocks of close to 17 million bales last August 1. Carryover has declined sharply because of the small 1966 crop, continued large domestic disappearance, and sharply higher exports.

As of July 1, U.S. acreage planted for the 1967 crop was estimated at 9.7 million acres. This is 6 percent below the 1966 acreage and 37 percent under the 1961-65 average. Producers signed up in the 1967 upland cotton program to remove about 4.9 million acres from production, compared with about 4.6 million acres for the 1966 crop. Although the basic loan rate was reduced for the 1967 program, price support and diversion payment rates were increased. Other provisions for the 1967 program are similar to those for 1966.

LESS USE?

Disappearance of cotton during the 1967/68 crop year begun August 1 may total a little below the 14.1 million bales estimated for the previous year, but well above the 1961-65 average of 13 million bales. The estimate for 1967/68 includes mill use of a little more than 9 million bales and exports of around 4¼ million bales.

Mill consumption of cotton during 1967/68 is expected to remain at a relatively high level, although below the 9.4 million indicated for the previous year. These very preliminary prospects for mill use assume a recovery in economic activity during the first half of the crop year, further expansion in civilian demand for textile products, and high levels of military procurement.

NET INCOME SLIPS

Realized gross farm income in the first half of 1967 is estimated at an annual rate around \$49¼ billion, (seasonally adjusted) down slightly from \$49½ billion for the same period a year earlier. Preliminary estimates of receipts from farm marketings were slightly lower than in January-June 1966 while direct Government payments were higher.

Farm production expenses continued to increase in the first 6 months of this year. The rise in farm business costs was mainly responsible for a drop in realized net farm income, from the near-record level of about \$16.6 billion seasonally adjusted annual rate in January-June 1966 to a rate now estimated around \$14.8 billion for the first half of this year.

CASH RECEIPTS DOWN

Cash receipts from marketings of farm products during January-June 1967 were estimated at \$18.0 billion, about 2 percent less than in the corresponding period of 1966. The decline in cash receipts was due to lower prices for farm products. Although they averaged about 5 percent below a year earlier, the drop in prices was partly offset by an increased volume of farm marketings, particularly of livestock products.

Farm marketings of livestock and livestock products are estimated at \$11.7 billion in the first half of this year, almost \$300 million less than a year earlier. Prices averaged 6 percent below 1966 levels but the volume of livestock marketings was some 3.5 percent larger. Receipts from milk marketings were substantially higher, but this was more than offset by lower cash returns from marketings of meat animals, poultry and eggs.

Crop marketings brought in an estimated \$6.3 billion in January-June 1967, down about \$100 million from the same months in 1966. Crop prices averaged about 5 percent lower, with a slightly larger volume of marketings partly offsetting. A sharp drop in receipts from cotton marketings was a major factor in the decrease in total cash receipts. Receipts from corn were larger due mainly to more favorable prices than in early 1966.

BETTER LIVESTOCK PRICES

Livestock slaughter is declining from the high level of early 1967, and prices are becoming more favorable to producers. By fall, prices of most classes of livestock are expected to be higher than they were a year earlier.

Fed cattle prices for fall are expected to show additional strength and average considerably above the \$25 in October-December 1966. Higher prices are expected in the fall because consumer demand for beef is expected to continue strong and because fed cattle marketings at that time likely will be smaller than a year earlier. The smaller marketings will reflect in part the 5 percent reduction in cattle on feed on July 1 weighing less than 900 pounds.

Water Problems Aired at Meetings

The weather elements have taught us some hard lessons, with floods, erosion, and dust bowls. But we have found cures and set them to work: Conservation, reclamation, flood prevention. The payoff has come with some superabundant farms, frequently adequate water supplies, and stable watersheds.

Now comes the poser: Can this technology be rapidly applied to many areas—including much of the United States—where improvement is desperately needed?

The need for prompt action was underlined in June at two conferences in Washington, D.C., where the perspective on water ranged from the allocation of world supplies to the prevention of wet basements.

Both meetings emphasized cooperative roles for water management and agriculture.

WATER FOR PEACE

At the Water for Peace Conference, a 91-nation forum of scientists and administrators, it was noted that although 60 percent of the world's cropland is located in areas where supplemental water supplies could increase farm output, relatively little of this acreage has been irrigated.

The need for supplementing natural water supplies, as well as for bog reclamation, will increase dramatically if the demographers' predictions come true: By the year 2000, the world's population may double to 7 billion, possibly reaching 20 billion by 2050.

The prospect of two and eventually three or more water users for each one now living is especially frightening for the less-developed countries. Farm output in these nations has stagnated at the level where our production was in the 1850's, partly because of the poor water supplies.

Recognizing the portents and promises of water in the next century, the U.S. Government has opened a new agency—the Water for Peace Office—to coordinate our efforts in world water programs.

Water problems are not confined to the have-not nations.

Take our own situation, for example. We face an explosion of the urban population, which now enjoys a plentiful

supply of food from our breadbasket, but cannot find an adequate supply of usable water.

Water on the loose is another aspect of urban growth. When land developed for nonagricultural use alters the historical watershed, the way is opened for uncontrolled runoff, pollution, and even drought.

Of U.S. land already under nonrural development, 20 percent suffers this water backlash. Silt sediment damage alone is costing \$350 million a year to rectify, and the potential damage from flooding in urban areas is considered to be as great as the danger to rural property.

WATER AND SUBURBS

How to prevent such damage, and how to conserve watersheds as they are absorbed by the expanding suburbs: These were major topics at the Soil, Water, and Suburbia Conference, sponsored jointly by USDA and the Department of Housing and Urban Development.

The conference brought together urban planners, suburban leaders, and agricultural experts in an effort to build good conservation into the urban future.

The future is approaching very rapidly. By the year 2000, our land will have to support a population of 300 million, much of it located in metropolitan centers. Currently, over 2 million acres yearly are being converted from rural to urban uses, at an estimated annual cost of \$100 billion.

To avoid the penalties of haphazard urbanization, delegates to the conference were told, conservation lessons learned by farmers during the past century must be applied anew to the cityscape. The wider use of soil surveys was mentioned as one simple but effective farm practice with urban application. Used on potential construction sites, surveys could prevent the building of superhighways or shopping centers where they would soon founder in unstable soil.

The old mill stream, as it emerges today from a new subdivision, is often woefully muddled. But we have the knowledge, and hopefully the foresight, to make it run clean again.

Big Water Supply, But Use to Rise

The forecast for water use: Heavy today, with increasing withdrawals in the years ahead. Another prediction: The bulk of new demand will come from nonfarm users.

One thing is sure: Apart from our ability to build a supply network, more than enough water exists for new demands. Our yearly renewable water resources of rain and snow in the United States amount to a fairly consistent 4.4 billion acre-feet of water a year. In addition, we live above a vast reservoir of ground water, estimated to be 10 times greater than the renewable supply from precipitation. Desalination, too, could play a long-term role as a source of water.

THIRSTY CONSUMERS

The largest water consumers are the atmosphere and the earth. They absorb a total of 70 percent of the precipitation through seepage, evaporation, and transpiration—the humid “breath” of foliage. The remaining 30 percent remains on the surface, running off into the streamflow.

As nonagricultural water users take bigger draughts from the rain barrel, they increase the drain on surface water, the primary source in most areas.

The farmer's case is different. He relies on rain to water his crops, except for the 1 acre in 12 which is irrigated. Water for irrigation, livestock, and other farm needs still comes mainly from surface supplies, but the amount of water drawn from wells is increasing.

The biggest farm use for water is irrigation. In 1967, about 38 million acres were under irrigation.

MORE WELLS

As the amount of irrigation has risen during the past 25 years, wells have increasingly provided the necessary water. Nearly all irrigation is in the West, where the nonfarm population and water needs are growing rapidly. Streamflow diversion by western farmers is nearing capacity, and many localities will have to depend on ground water for future supplies.

Besides differences in where they obtain their water, there's another major difference between farmers and other water users—in the amount of water they draw, but don't return. Farmers accounted for only 37 percent of the 287 million acre-feet of water withdrawals, according to the last comprehensive water survey in 1960, but they comprised the largest category of water consumers.

In water terminology, consumption doesn't mean the same thing as withdrawal. Water that's not returned to the supply system for re-use is considered to be consumed—and this is true of half of the water farmers withdraw, compared with only about 4 percent of water withdrawn for nonagricultural purposes.

As a result, farmers are the major users when it comes to water.

Looking once more at the figures for 1960, farmers accounted for 87 percent of U.S. water consumption, which totaled 60 million acre-feet.

FUTURE USE LARGE

The pattern of large nonfarm withdrawal and large farm consumption of water will remain a part of the picture in coming decades, as illustrated by these projections for 1980, based on recent trends:

- Nonagricultural withdrawals will triple, to 541 million acre-feet, and farm withdrawals will rise by one-fifth.

- Total withdrawals will equal one-half of our annual precipitation supply.

- Consumption will rise by 37 percent, totaling 82 million acre-feet.

- Water consumed for agricultural purposes will account for 76 percent of the total in 1980, with irrigation alone taking 71 percent.

With the projected increase in non-farm water use, agriculture's share of withdrawals and consumption will decline somewhat in relative importance. Efficient use of water on the farms, however, will become increasingly important in freeing more water for all users.

Economic Research Service

AFTER IT RAINS THE LAW WATCHES AFTER THE WATER

They haven't begun taxing rain—yet. At least until it hits the ground. As soon as water seeps down to the water table or runs off into the creek, it is subject to water law.

The simple objective of water law is to insure a fair distribution of H₂O to all legitimate users, and that can get complicated. Item:

—The owner of a land-locked plot of ground was refused permission to use the excess water from a stream on his neighbor's property.

—A swim club, using its well to fill the pool, caused a neighbor's well to go dry. The club had to help pay the cost of making the well usable again.

—A State ordered a municipality to improve its water-polluting sewage system.

—A power company was enjoined from building a new plant on a river because the location threatened to kill the fish.

—A logging firm was prevented from cutting trees in a watershed area.

—A large city found its use of water severely restricted.

Landowner, swim club, municipality, power company, logging firm, metropolitan government—all have one thing in common. They control the land but not necessarily the use of the water associated with the land.

The situation is typical of 31 eastern and midwestern States, according to a recent study of water rights and regulations in the area.

If you live along a stream, you and your family usually have the right to drinking water, to water for use in the household garden and to the water needed for some livestock. In some States, you may use all you reasonably need for such purposes even though you use up the entire flow.

You may also make reasonable use of the water for any other purpose such as irrigation and industrial use.

To have such specific water rights, your land usually must adjoin the



stream, lie within its watershed and be one contiguous ownership tract. Some States have stricter requirements.

In the use of navigable streams, however, public rights are recognized as coming first, though courts usually try to accommodate both public and private rights when possible.

Public rights may include use for commercial navigation, pleasure boating, fishing, swimming or other public purposes.

In the use of well water, it is permissible in some States for the landowner to take all the water he can get as long as he does not maliciously injure his neighbor or let the water run to waste.

However, in other States, the landowner may be limited to a reasonable use of the water on his land. Its use on distant lands may be prohibited if his neighbors are damaged by such use.

WILL PUMPING PAY DESPITE LOWER WATER TABLE?

The big question for many irrigated farm areas in the Texas High Plains is how best to use the gradually diminishing supply of irrigation water. That question in turn raises the issue of how long it will pay to pump the water.

A recent study indicates two profitable alternatives to maintaining current practices.

The model farm used in each case contains 540 acres, with 472 acres classed as cropland—40 acres of cotton, 111 acres of grain sorghum, 107 acres of wheat and 214 fallow or idle acres. Remember that well capacity is figured to decline during each year. The choices are:

—Program I, current practices. It wouldn't be practical for a farmer in the area to try to maintain current levels of irrigated acreage for more than a few years, assuming prices remained at base-period levels (1964).

When the attempt went on for more than 8 years in the study, it resulted in a substantial capital loss because of the unrecovered investment of \$30,000 to \$38,000 in irrigation facilities.

—Program II, irrigation facilities kept constant. With the number of wells held to the 1964 level, the irrigated acreage declines over the expected economic life of the system. The system provides the lowest use of irrigation water and the longest life (24 years) of the three programs. It also reduces the unrecovered investment.

—Program III, annual income pushed to the maximum. Key difference between this system and the others is that it is based on maximum recovery of investment. In this program, investing in additional wells and replacing pumping units is limited by the require-

ment that the investment be recovered within 4 years—the assumed operational life of a submersible pump and motor. This procedure permits the least unrecovered investment.

In this program, it was profitable to replace the pumping units or add new wells up to the 17th year of the program, when irrigated acreage was severely reduced. During the life of the program, the amount of irrigated land fluctuated yearly, rising in the years when it was profitable to drill a well, and gradually decreasing when no new wells were drilled.

Here's how the three programs compared:

Production. Holding the number of wells to the base level, program II provides more total production, but it takes 6 more years to achieve the production total, compared with program III.

Program I, maintaining the level of acreage irrigated, provides the lowest level of total output because the system survives only 13 years. However, it provides the highest rate of annual production because it maintains a full seasonal water supply for more irrigated acreage.

Water used. The three systems use about the same amount of water overall, but at considerably different annual rates.

Returns. The discounted net returns to land and management also vary.

Choosing between the systems appears to turn on whether the farmer wants his returns spread over the shorter or longer term of years, and how much of an unrecoverable investment he wants to make for equipment.

THREE PROGRAMS FOR IRRIGATED FARMS IN THE TEXAS HIGH PLAINS

Program	Total water use	Economic life-span	Return to land and management ¹		Unrecovered investment ²
	Acre-feet	Years	Accumulated Dollars	Discounted at 8 per cent ³ Dollars	Dollars
I	3,716	13	142,141	86,140	38,148
II	3,748	24	177,106	90,948	4,757
III	3,797	18	168,772	93,632	170

¹ During "economic life-span." ² Dryland "opportunity costs" and "unrecovered investment" subtracted before discounting. ³ Investment in irrigation facilities only.

AH-CHOO! Shake it. Grind it. Let the grains fall where they may.

They'll pile up to around 40 million pounds of pepper—black and white—worth about \$14 million. And that's what it takes to keep our U.S. pepper shakers filled for a year.

Considering how often everyone says, "Please pass the salt and pepper," it's surprising that we use only about 3 ounces of pepper per person annually.

Yet in usage and value, pepper tops the list of the 36 major spices and herbs that add flavor and savor to our daily diet. (Salt doesn't count because it is a mineral.)

All of our pepper is imported, mostly from India and Indonesia. But in recent years, Indonesian output has been slipping and Brazil has been coming up strong. Other producers are Sarawak, Ceylon, Cambodia and the Malagasy Republic.

Both black and white pepper are the dried fruit of the same climbing vine (piper nigrum).

The berries, or peppercorns, are sun-dried and as the hulls shrivel they blacken. Then, for white pepper, the outer hull is soaked and removed and only the seed is used, whole or ground. The whole berry is used for black pepper, so the ground form has both black and white particles.

SHAZAM: Like magic, retail food discount stores are popping up all over the country. Close inspection reveals that housewives don't mind a restricted selection if the price is right.

Though still few in number, discount food stores' sales are up 800

percent since 1960. Trade estimates indicate that in 1966 discounting amounted to 11 percent of grocery store sales.

Are food prices really lower at a discount store?

Yes, according to a recent comparison of 30 identical items sold in discount stores, conventional supermarkets and independent grocery stores in 10 standard metropolitan areas of the United States.

AGRI MINI MEMOS

BANANA BOXES: The cardboard box is making a contribution to world trade by revolutionizing banana exporting. The fruit is in better condition at delivery and a wider distribution into world trade channels is possible.

Formerly, the bananas were shipped on their stems, in no particular kind of package.

Imports by major countries totaled 9.9 billion pounds in 1965, up from 1964's 8.6 billion pounds.

The United States, which absorbs between 35 to 40 percent of world imports of bananas, imported 3.7 billion pounds in 1966, a rise from the 1965 figure, 3.5 billion.

SNUFF: Use last year averaged out to .23 of a pound by all citizens over 18 years old. Back in 1925-29, it was a little over half a pound, or .52.

Manufacturers' sales records indicate that snuff use tends to be above average in occupations where smoking is hazardous, such as lumbering

areas of the Northwest and oil fields of the Southwest.

U.S. production of snuff, however, reached a long-time low of 29½ million pounds last year. Output has dropped more than 8 million pounds in the past decade and is expected to continue downward.

C'EST SAGO: Palm trees may conjure up visions of tropical isles for some people. In trading circles they're more likely to mean fibers for brushes, leaves for fans, oils for soap, waxes for shoe polish—and even starch.

The sago palm is a member of a palm family whose trunks or enormous flower stems harbor a pithy deposit from which starch is extracted.

The trees are particularly fond of the climate in the Indonesian archipelago, including the big island of Borneo.

Sago palms take about 15 years to flower. If the flower's fruit is allowed to ripen it absorbs all the starchy pith. So the trees are usually cut down and the starch extracted before the fruit ripens.

APPLES: Tradition has it that the first apple seed to be planted in Washington Territory was brought there by a sea captain who pocketed the seed at a farewell dinner in London.

Be that as it may, the State of Washington is today by far the leading apple producer of the Nation. Its 1966 crop was 33 million bushels—one-fourth of the total U.S. apple harvest.

New York was next, with a crop of 23 million bushels, followed by Michigan with 16 million.

MEET THE STATE STATISTICIAN For The Newest SRS State Office . . .

Raymond M. Pallesen starred in a double-header on July 1: He was assigned his first post as agricultural statistician in charge at the newest link in the chain of State-Federal crop reporting system—Nevada, home of the 44th SRS field office.

Although this is also to be his first lengthy stay in Nevada, Ray is very much at home in the West, having spent the better part of his 44 years west of the Mississippi.

Born in Neligh, Nebr., Ray was educated first at the local one-room school-house and was graduated from Neligh High School in 1940. He entered the Army Air Corps a short while after entering Colorado State University at Fort Collins. After the war he completed his studies at the University of Nebraska where he received his B.S. in agricultural economics.

Ray has spent much of his professional career in the Midwest: He was twice posted to the Iowa field office, from 1949 through 1955 and from 1959 through 1962. His other years with USDA were spent at SRS headquarters in Washington, D.C., where he was a livestock specialist. Preceding his new appointment he was livestock statistician, specializing in pig crop and hog inventory estimates.

Ray tells us that Nevada is primarily a livestock State—devoted to raising and grazing beef and dairy cattle,



RAY PALLESEN

sheep, and horse. Although this seventh largest of our States has a smaller share of land planted to crops than any of the other 49, no other State has so high a percentage of its total crops in hay and forage. Most of this production is consumed by Nevada's own livestock.

There are many other diversified agricultural products in Nevada, including the famous Hearts of Gold cantaloupes in the Fallon area; potatoes and onions in Smith and Mason Valleys near Yerington; green onions, radishes, and tomato plants in Moapa Valley, and 3,400 acres of cotton in the Pahrump Valley in the southeastern corner of the State.

Also of importance are the rapidly expanding certified seed-producing areas of Oroville and King's River Valley in Humboldt County adjacent to the Oregon border, the Reese River Valley areas of Lander County and Diamond Valley area of Eureka County.

There are fine dairies and milk-processing plants, principally in western Nevada, that supply a major portion of the State with its milk, cream, and butter.

Tall and muscular, Ray keeps his rugged build in trim with devotion to golfing, bowling, and mountain climbing—he has climbed several western mountains.

During his college days in Nebraska, Ray met and married Ruth Flowers of Lincoln. They have two daughters and a son. Carol Ann, 18, will enter the University of Nevada this fall and Mary Jane, 15, will be in Reno High School. Michael Ray, 10, is an active and enthusiastic Little Leaguer.



SAM STAT SAYS

"Check My Data"

A brief roundup

■ Cattle on feed July 1 in 32 feeding States totaled 2 percent fewer than a year earlier. Decreases in the number on feed weighing between 500 and 899 pounds more than offset gains in the other weight groups. ■ The decline in total numbers from April to July amounted to 17 percent this year compared with 13 percent last year. ■ Regionally, there was only a slight decline from a year earlier in July 1 numbers in the North Central States, while numbers in Western States dropped 6 percent. Among other feeding States, Texas showed a sharp gain of 14 percent. ■ Placements on feed during the April-June quarter totaled 1 percent above a year earlier. North Central States had a 4-percent rise, but the West had a decline of 13 percent. ■ Fed cattle marketings during the quarter were 9 percent above a year earlier. ■ Cattle feeders during July-September planned to market 2 percent more of their July 1 numbers of cattle on feed than they did last year.

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Editor: Ben Blankenship

More Silver Threads in a Thinning Lock

Farm people are older than they used to be. At the beginning of the decade 30 percent of all farm people were 45 years old or over; by 1966 this proportion had increased to 35 percent.

The leaves of the calendar turn no faster down on the farm. But the wheels do—the wheels of the cars and busses taking many farm people off the farm, year in and year out.

About 11.6 million per-

sons lived on U.S. farms in April 1966. That was 5.9 percent of the total population.

Six years earlier there were 15.6 million farm residents. The rate of decline averaged 5 percent a year.

Continued migration from the farm by young adults of childbearing age, together with the lowered birth rate of recent years, has dropped the percentage of children under 14 years from 1960's 31.9 percent to 28.8 percent in 1966.

From 1960 to 1966, the number of farm adults 20 to 44 years of age declined

more rapidly than the farm population as a whole. The heaviest decline, 37.9 percent, occurred in the age group 25 to 34 years.

Year	Farm population ¹	Share of U.S. total
	Thousands	Pct.
1966....	195,384	5.9
1965....	193,258	6.4
1964....	190,724	6.8
1963....	187,998	7.1
1962....	185,208	7.7
1961....	182,350	8.1
1960....	179,323	8.7

¹ April-centered annual average.

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